

Response to Office Action of January 19, 2006
U.S. Patent Application Serial No.: 10/689,473

REMARKS

Claims 25-27 are added and claims 11-17 are cancelled herein without prejudice to their patentability. Applicant specifically reserves the right to pursue the subject matter of the cancelled claims in a later-filed continuation application. Claims 1-10 and 18-27 will be pending upon entry of this amendment.

I. General Considerations

Machines for handling coins or valuable papers usually comprise a large amount of operating parameters, settings, and other configuration data which frequently needs to be configured in a manner that adjusts the original factory settings or updates the previously reconfigured settings of the machine. Typically, such machines are configured by a service engineer with a portable computer directly connected to the machine. Such existing portable computers have an appropriate configuration application software loaded on the machine to allow the computer to exchange data with the machine or to update the software on the machine. Thus, existing methods of configuring such machines are complex and time-consuming requiring an on-site service call from a qualified service technician equipped with the hardware and software capable of performing the configuration.

The present invention is generally directed to a method of configuring a coin/valuable paper handling machine by using a portable device that eliminates the need for a service call from a service technician. The functionality for achieving the configuration is one of the central aspects of the invention and is claimed in the pending claims of the present application. As discussed below in more detail, method claim 18 is directed to the specific steps of the method of configuring the machine and apparatus claim 1 is directed to a portable device having corresponding structural elements capable of performing this functionality.

One central aspect of the invention is the use of the portable device which in an independent and automatic operating manner detects connection to an external unit from which configuration data is received and to the machine to which the configuration data is delivered. The portable device respectively emulates the "other party" (i.e., either the machine or the external unit) and transfers configuration data in stages from the external unit to the machine via

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temporary storage in the portable device. No manual interaction is required other than physically connecting the portable device first to the external unit and later on to the machine. During the configuration of the machine, the portable device will be fully transparent to the external unit as well as to the machine in that, in both cases, the external unit and the machine, respectively, will "think that it talks" directly to the machine and the external unit, respectively, as a result of the emulation of the portable device.

By using the portable device in the manner of the present invention, a user obtains a number of advantages including the simplification of the configuration process such that the level of training to perform the configuration is reduced to a level that eliminates the need for a service call from a trained service technician. Rather, a service technician can configure the portable device at a location away from the machine site and send the portable device to the machine site, where a non-trained user, such as at a bank or department store, can connect the portable device to the machine to carry out the configuration so that the settings of the machine are updated.

II. Rejections Under 35 U.S.C. § 103

Claims 1-10 and 18-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 6,805,634 (Wells) in view of Sriniva Yarra, "USB OTG software frees dual-role handheld devices" EDN, Vol 47, Issue 11, p. 83, May 16, 2002("Yarra").

A. Claim 18-24 and new claims 25-27

Claim 18 is directed to a method of configuring a machine of the type which handles coins or valuable papers and which can be configured from an external unit, the method being characterized by the steps of:

providing a portable device, other than said machine and said external unit;

detecting, in said portable device, that said portable device is connected to said external unit;

emulating said machine by said portable device so as to receive configuration data intended for said machine from the external unit and store said configuration data in the portable device;

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detecting, in said portable device, that said portable device is connected to said machine;
and

emulating said external unit by said portable device so as to deliver said stored configuration data to said machine.

Claim 18 is patentable and nonobvious over the references on record, including in particular Wells and Yarra, in that none of the references show or suggest a method of configuring a machine of the type which handles coins or valuable paper, the method comprising providing a portable device, emulating the machine by the portable device so as to receive configuration data intended for the machine from the external unit and store the configuration data in the portable device, and emulating the external unit by the portable device so as to deliver the stored configuration data to the machine.

Wells discloses reprogramming of a gaming terminal 112a by downloading information from an external information source such as a central computer 116 connected to the gaming terminal by a network interface system 312. Alternatively, as disclosed in Figs. 1A and 3 of Wells, a laptop computer 128 can be connected directly to the gaming terminal 112a via connector 326. There is nothing in Wells that suggests use of the laptop computer 128 as a portable device which is first connected to an external unit (the central computer 116), acts as a temporary storage for configuration data, and is then connected to the machine (gaming terminal 112a). On the contrary, Wells teaches two conventional configuration approaches where the gaming terminal is provided with configuration data from the external information source. In the first approach, the external information source is the central computer connected to the gaming terminal by a network interface. In the second approach, the external information source is the laptop computer 128 connected directly to the gaming terminal.

The prior art does not suggest the desirability of making the necessary modifications to prior art apparatus of Wells to obtain the applicant's invention. The Federal Circuit has repeatedly warned that to imbue a skilled artisan with knowledge of an invention, when no reference or record conveys or suggest that knowledge, is to fall victim to the "insidious effects of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." W.L. Gore & Assoc. v. Garlock, Inc., 220 U.S.P.Q. 303, 312-13 (Fed. Cir. 1983). The mere fact

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that the prior art could be modified does not make the modification obvious unless the prior art suggest the desirability of the modification. In re Mills, 16 U.S.P.Q.2d 1430, 1432 (Fed. Cir. 1990). Furthermore, the prior art must provide one of ordinary skill the motivation to make the proposed modifications. In re Lulu, 223 U.S.P.Q. 1257, 1258 (Fed. Cir. 1984).

As acknowledged by the Examiner, Wells does not teach that the laptop computer 128 is an intermediate portable device that is first connected to the external information source (central computer 116) and then to the gaming terminal 112a. Wells teaches a configuration setup similar to the prior art method of configuring a coin handling machine, that is acknowledged in the background of the present application and shown in Fig. 1, which includes a portable computer 120 connected to a coin sorter machine 100. The Examiner merely states that it would have been obvious to one of ordinary skill to connect the portable device (laptop computer 128) to the external unit (central computer 116) in order to receive configuration data intended for the machine. As no reference has been cited by the Examiner for supporting this position, applicants submit that the Examiner is relying on the impermissible use of hindsight in view of the applicants disclosure. If this position is maintained, applicant respectfully requests a citation of prior art that evidences motivation to make the suggested modification to Wells. Without such justification, the obviousness rejection based on Wells is unsupported and should be withdrawn.

Additionally, as acknowledged by the Examiner, Wells fails to show or suggest that the portable device (laptop computer 128) emulates the machine (gaming terminal 112a) so as to receive configuration data intended for the machine from the external unit (central computer 116), and emulating the external unit by the portable device so as to deliver the stored configuration data to the machine. Yarra fails to show or suggest this feature.

Yarra merely describes the generalities of the USB OTG protocol which allows a handheld device to act as a host device or peripheral device depending on the context. The USB OTG protocol discussed in Yarra does not teach the software program that is required in the handheld device for the device to be capable of "emulating" a host device so as to receive data from the peripheral device. One example discussed in Yarra at col. 1, second paragraph, describes a user using a smart phone as a host device together with a USB keyboard as a peripheral device so as to type an email message, and then using the smart phone as a peripheral device by connecting it to a host computer to receive an MP3 track. In this example, there is no

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emulation taking place in the sense that the smart phone does not make the USB keyboard believe it communicates with a host PC computer, or make the PC computer think that it communicates with a USB keyboard in the second place. In every case, each device knows who it is communication with.

Moreover, a reference is not available under 35 U.S.C. § 103 if it is not within the inventor's field of endeavor and it is not directly pertinent to the particular problem solved by the inventor. King Instrument Corp. v. Otari Corp., 226 U.S.P.Q. 402, 405 (Fed. Cir. 1985). Yarra has no link to the technical field of coin/valuable paper handling machines, and particularly to the configuration of such machines and is not analogous art for the purpose of analyzing obviousness of the claimed invention. Instead, Yarra is directed to the field of computer peripherals, particularly hand-held mobile devices such as cell phones and the like, that are USB enabled so that two such devices can be connected directly to one another without the need for a host personal computer.

Because of Wells' failure to disclose or suggest all the steps of claim 18 and in view of the shortcomings of the teachings of Yarra, as well as the fact that it is nonanalogous art, applicant submits that there is not motivation for one of ordinary skilled in the art to modify Wells to result in all the steps of the invention recited in claim 18. Even if the teachings of Wells are combined with the teachings of Yarra, the resulting combination does not show or suggest all the features recited in claim 18.

Accordingly, claim 18 is nonobvious and patentable over the references of record. Claims 19-24 and new claims 25-27, depending directly or indirectly from claim 22, are nonobvious and patentable over Wells, Yarra, and the other references of record for at least the same reasons as claim 18.

Additionally, new claim 25 recites that emulating the machine by the portable device comprises executing a computer program comprising an initialization and a superloop. Wells, Yarra and the other references of record fail to teach or suggest such a portable device emulating the machine by executing such a computer program. Accordingly, new claim 25 is patentable over the references of record for this additional reason.

New claim 26 recites that the portable device comprises a memory having an intermediate buffer and a data buffer and emulating the machine by the portable device comprises executing

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an interrupt to store said configuration data in the intermediate buffer and placing the configuration data in a data buffer. Wells, Yarra, and the other references of record fail to show or suggest this feature. Accordingly, claim 26 is submitted as patentable for this additional reason.

New claim 27 depends from claim 26 and recites that emulating the external unit by the portable device comprises executing the computer program to transfer the configuration data from the data buffer to the machine. Wells, Yarra, and the other references of record fail to show or suggest this feature. Accordingly, claim 27 is submitted as patentable for this additional reason.

B. Claims 1-10

Claim 1 is directed to a portable device for configuring a machine of the type which handles coins or valuable papers and which has an interface for connecting an external unit, thereby allowing the machine to be configured from the external unit, the portable device being characterized by

- a control unit;

- a memory;

- a first interface adapted to be connected to said external unit; and

- a second interface adapted to be connected to the interface of said machine;

the control unit being adapted, when the portable device is connected to the external unit via the first interface, to emulate said machine and to receive configuration data intended for said machine from the external unit and store it in the memory, and

the control unit being adapted, when the portable device is connected to said machine via the second interface, to emulate the external unit and deliver said configuration data stored in the memory to said machine.

Claim 1 is patentable over the prior art of record, including in particular Wells and Yarra, in that none of the references show or suggest a portable device for configuring a machine of the type which handles coins or valuable papers having a memory and a control unit being adapted to emulate the machine to receive configuration data intended for the machine and being adapted to emulate the external unit and deliver the configuration data stored in the memory to the machine.

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Claim 1 has been rejected based on substantially the same reasoning as relied on for the rejection of the method of configuring a machine set forth in claim 18. As noted above for claim 18, Wells does not show or suggest a portable device as set forth in claim 1. Specifically, Wells does not teach that the laptop computer 128 is an intermediate portable device that is first connected to the external information source (central computer 116) and then to the gaming terminal 112a. The Examiner merely states that it would have been obvious to one of ordinary skill to connect the portable device (laptop computer 128) to the external unit (central computer 116) in order to receive configuration data intended for the machine. As no reference has been cited by the Examiner for supporting this position, applicants submit that the Examiner is relying on the impermissible use of hindsight in view of the applicants disclosure. If this position is maintained applicant respectfully requests a citation of prior art that evidences motivation to make the suggested modification to Wells. Without such justification, the obviousness rejection based on Wells is unsupported and should be withdrawn.

As noted above for claim 18, Yarra does not add to the disclosure of Wells or provide motivation for modifying the teachings of Wells because Yarra does not show or suggest a portable device having a control unit adapted to emulate the machine when the device is connected to the external unit via the first interface and to emulate the external unit when the device is connected to the machine via the second interface. At most, Yarra merely describes the generalities of the USB OTG protocol which allows a handheld device to act as a host device or peripheral device depending on the context. The USB OTG protocol discussed in Yarra does not teach the software program that is required in the handheld device for the device to be capable of "emulating" a host device so as to receive data from the peripheral device. As such, Yarra does not add to the teachings of Wells in that the combination of Yarra and Wells does not disclose a portable device as set forth in claim 1.

As further noted above, Yarra has no link to the technical field of coin/valuable paper handling machines, and particularly to the configuration of such machines and is not analogous art for the purpose of analyzing obviousness of the claimed invention. Instead, Yarra is directed to the field of computer peripherals, particularly hand-held mobile devices such as cell phones and the like, that are USB enabled so that two such devices can be connected directly to one

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another without the need for a host personal computer. As such, Yarra is nonanalogous art that should not be considered in determining the patentability of the invention.

Accordingly, claim 1 is nonobvious and patentable over the references of record for at least the reasons set forth above. Claims 2-10, depending directly or indirectly from claim 1, are nonobvious and patentable over Wells, Yarra, and the other references of record for at least the same reasons as claim 1.

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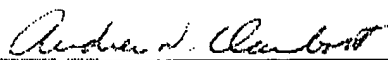
III. Conclusion

In view of the above remarks, the rejections of the claims set forth in the Office Action are believed to have been addressed and overcome. All pending claims are thus in condition for allowance and an early notice of allowance is earnestly solicited.

If issues may be resolved through Examiner's Amendment, or clarified in any manner, please call the undersigned attorney at (404) 879-2453.

Respectfully submitted,

Date: April 19, 2006


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